

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.**

In the Matter of )

**DOCKET FILE COPY ORIGINAL**

Closed Captioning and Video Description )  
of Video Programming )

MM Docket No. 95-176

**RESPONSE TO NOTICE OF INQUIRY**

Response Submitted by:

Dick Burkhalter  
150 Ohana Street  
Kapaa, HI 96746  
(808) 822-5517 TTY  
(808) 822-7175 FAX  
Internet: dickb@aloha.net

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Gentlemen,

In responding to this Notice of Inquiry, I am going to address the questions specific to hearing loss, and from my personal perspective as a deaf consumer. I am a 58 year old deafened man. My hearing loss began in childhood and is progressive. I wore my first hearing aid at the age of 15. I was able to function, with aids, within the framework of the general hearing society until my mid-40's, at which time I became unable to use the voice phone and transitioned from "hard of hearing" to "deaf." I began using TTY for phone communication and closed captioning for TV at that time. I was a computer systems analyst and programmer for over 35 years prior to my retirement in 1992 and I am now a certified producer for my local Public Access TV station.

My comments are based on experience with captioning in the Los Angeles area and most recently (the past two years) in Kauai, Hawaii. As I travel frequently to the mainland, I feel that my knowledge of the current situation in a high-saturation market is still valid.

Because I am responding only to specific questions for which I feel I have expertise, I will summarize the FCC's question by retaining a sentence or two of the original NOI text, which I will then follow with my commentary. I will use a different typeface for my commentary in order to make this document more easily readable.

Burkhalter response to NOI      MM Docket No. 95-176

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To begin with let me just state that I feel strongly opposed to the line of questioning this Notice of Inquiry takes. The entire subject is one of civil rights, as it applies to the rights of people with disabilities to have equal access to all areas of life. The ADA has followed other Civil Rights legislation and has as its basis all the previous laws granting equal rights to minorities, going all the way back to the Emancipation Proclamation.

This NOI would not even have been created were the subjects of the inquiry African-Americans, Hispanics or other ethnic groups, or if they were "women" or "the elderly." So the basic question that comes to my mind is "Why do people with disabilities have to stand for being discriminated against when all of these other groups have been granted their rights without question?"

According to data compiled by the U.S. Census Bureau, there are over 23 million persons with hearing disabilities and over 8 million persons with vision disabilities in this country, although we have seen estimates claiming a larger number of individuals with these disabilities.

The figures most widely used by the deaf and hard of hearing community seem to be higher. I have most often seen the number "26 million" used, and have seen mention of as high as 30 million. I have no information as to where those figures were derived. It does seem to be in line with my own personal experience that the actual figure is closer to 10% of the total population. Primarily the cause of under-reporting is the reluctance on the part of many people, particularly the elderly, to admit to a hearing loss.

Closed captioning and video description can offer other benefits. Closed captioning can be an effective tool in teaching literacy skills for young children as well as for the estimated 23-27 million American adults who are functionally illiterate.

I have had many comments from hearing people who have visited my home that they appreciate closed captioning in situations where hearing of the program is constrained due to environmental circumstances. This has been increasingly apparent as people purchase new TV sets with built-in decoder chips. Not surprisingly, hearing people are also the most outspoken in their criticism of the quality of captioning provided in news shows or other situations where real-time captioning is provided. During the O. J. Simpson trial, as an example, I received many negative comments from hearing people regarding the captioning, as many of them were watching the trial during working hours with the sound off and were dismayed at the gaps and mis-translations that often happened.

*Closed Captioning.* The information available to us indicates that approximately 70 percent of broadcast network programming is closed captioned, including nearly 100 percent of broadcast network prime-time programming.

This may be true on a national basis, but I find that very often captions are lost or damaged by local affiliates when they insert local commercials into network prime-time programming. I feel it is grossly unfair to us to portray network programming as 100% captioned when in fact the percentage can sometimes be as low as 50% due to local stations mis-handling of the captioning. Related to this is the lack of captioning of local portions of news programming. While it may be true that a high percentage of the national and international news provided by the networks is captioned, local content portions of the news shows are captioned little and badly, if at all.

We ask commenters to provide data regarding the current availability of closed captioning of television video programming. Has the amount of closed captioning been increasing in recent years, or has it reached a plateau? We are particularly interested in data on availability and any discernible trends regarding the following categories:

First, to address the trend issue. I find that there is a small increase in cable program captioning, but a decline in PBS captioning and almost no movement at all at the local programming level. I am currently trying to persuade my local Public Access provider to caption programming, and have even worked to come up with low-cost ways to do that, but at this point, there is still a general reluctance to spend the money and time.

- *Program Source.* What is the current availability of closed captioning according to the source of the programming -- broadcast network, basic cable and premium cable networks, syndicated programming, locally-produced programming, local and nationally produced public television programming? What explains the difference in the amount of closed captioning of cable programming as opposed to broadcast programming?

By far the most significant determinant appears to me to be the cost and the prospect of the programmer getting the funds to pay for captioning. Closed captioning is just too expensive for small producers to afford.

- *Other Delivery Systems.* Viewers can receive television video programming from a variety of non-broadcast, non-cable services, including wireless cable, satellite master

I have no experience with alternative delivery methods described in this paragraph, but I wonder why the single most important source of program supply, pre-recorded tapes sold or rented in retail establishments or via mail order, is not included here? I think it's extremely important to include these forms of delivery in any regulation, and to find ways to get these titles captioned. A very un-scientific survey of my local Blockbuster store indicates that fewer than 10% of the titles in stock are captioned. In addition to titles made available for rent in Blockbuster and similar outlets, there are literally thousands of titles produced for specialty markets and sold via mail-order

though magazine advertising. On top of that, many videos of all kinds are sold via advertising on TV itself and virtually none of these titles are captioned. Overall, if one were to survey all the video programming being offered, including broadcast and pre-recorded, I would venture to guess that fewer than 3 to 5% of the available programming is captioned. I find this an unacceptably low level. I would be willing to guess that I personally would have spent over \$2,000 on pre-recorded tapes in 1995 had the titles I was interested in been captioned.

- *Program Type.* To what extent are each of the following types of programs closed captioned (on the media within the scope of FCC jurisdiction): entertainment programs, local and national news, documentaries, public affairs programming, children's

The major gaps appear to be in the categories most likely to be labeled as educational or documentary. As an example, virtually none of the programming on the Discovery Channel is captioned, yet this channel carries programming of significant educational value to adults and children.

- *Previously Published Programming.* We solicit comment on the extent of closed captioning of previously published or exhibited programs, such as reruns and movies, that will be shown to television audiences again.

One of the major market segments in the pre-recorded video area is the release of old TV programming which was produced prior to captioning becoming available. These tapes are often sold in sets via retail outlets, via mail order from catalog and TV advertising, and via direct mail solicitation. Many of us who grew up with those shows would love to see them again but cannot enjoy them because they are not captioned.

Another trend which I have observed lately is the selling of tapes of shows which are recent creations and are captioned when broadcast, but when sold as tapes are not. An example of this is a company called PBS Home Video based in Southern California, which is marketing tapes of popular shows aired on national PBS stations. My wife and I wanted to order some of those tapes but found out that they were not captioned, even though the shows we watched were. Michael Palin's "Pole to Pole" series was one which we bought but returned when it was found they were not captioned. Our inquiries to the company revealed that none of the tapes they sell are captioned, even if the original shows were. This is another situation which I find unacceptable, and that I feel must be addressed. Severe penalties should be levied on parties who remove captioning from previously captioned material, or who otherwise thwart the process of making captions widely available.

- *Market Size and Other Factors.* We also request comment on the degree to which closed captioning varies by the size (measured in terms of revenue and any other

relevant factors) of the video programming provider or producer.

It is undoubtedly related to market size, or projected market size. While many advertisers and sponsors of national network programming have long recognized the benefits of captioning, smaller companies have not. If it can be assumed that 10% of the population could benefit from captioning, then by extension, one might think that captioning would reach 10% more people. This accounts, for instance, for captioning of commercials by major national advertisers when the programming they sponsor is not itself captioned.

However, it currently costs the same to caption an hour of programming, whether that program reaches an audience of 30 million or 3,000. It is simply not economically viable for the producers of programming for smaller markets (or the sponsors of those shows) to pay the current costs of captioning.

*The Impact of Digital Television.* We also ask parties to comment on the impact that implementation of Advanced Television ("ATV"), and the use of digital technology, may have on the provision of closed captioning and video description on video programming carried by broadcasters and other program providers.

The technological changes coming along, not only with ATV but with other means of distribution of video programming (CD-ROM, Internet, computer interactive programs and other products yet to be invented) allow for a tremendous area of experimentation and innovation. For this reason, I would like the FCC to broaden its focus and eliminate the accent on current "closed captioning" technology. I believe that by keeping the focus of this inquiry too narrow, or by ignoring other options for presentation of textual material as alternatives to the current closed captioning methods, any regulation stemming from this NOI will be too restrictive and stifling of potential alternatives. Just as a few simple examples, let me outline some scenarios which are within the realm of currently available technology.

1. One of the major difficulties with closed captioning is the conflict that often arises with the placement of captions on the screen relative to other graphic elements. This is most pronounced when watching sports, where captions quite often overlay the scores, or in interview shows where captions overlay identifying information about a person speaking. By the simple expedient of changing the aspect ratio of the picture, such as is done on many movies originally made for wide-screen projection, space becomes available for captions above and below the usual picture area.
2. Another type of modification which is used quite often on sports shows is to use the Picture-in-Picture capabilities of the video editing equipment to show a slightly reduced main picture, leaving space on the bottom and side for the presentation of other information. Captions, closed or open, could be placed in this area.

3. It is well within the capabilities of currently available digital editing software and hardware to put the captions anywhere on screen, in any font, color or size. Just being outlandish for a moment, it's entirely feasible to put the text of the captions in cartoon balloons, and that might particularly be appropriate for cartoon features.

When closed captioning was developed in the 1970's we didn't have personal computers and the public was much less used to seeing text and graphics mixed on a screen. In the intervening 25 years, tremendous advances have been made in the presentation of material and information. I have a strong suspicion that open captioning today would be much less annoying to hearing people than it was then, particularly if the captions are displayed in a pleasing typeface and manner. For that reason, I feel that opening up the regulation to focus on the delivery of equal access rather than focusing on specific methods will ultimately be a benefit, not only to users with hearing impairments, but to the general public as well.

*Cost Issues.* According to the legislative history of the TDCA, in 1990, it cost roughly \$2,500 and required 20-30 person-hours to close caption a one hour program.

This is far too expensive for all but those who have major national markets. The cost of the equipment required to do closed captioning has been declining steadily, in line with the decline in prices of PC hardware, yet the real cost of captioning is in the labor. Advances have been made in speech-to-text translation, but the best current systems can, at best, translate about 60 words per minute, or 1 word a second. Based on past performance, it is unrealistic to expect a major breakthrough in technology which would solve this problem within the next 10 years.

In any case, translating speech to text is only a small part of what is required to create readable captions. Editing is required for positioning, timing and esthetic considerations, all of which will continue to be human-dependent. At best, computer translation of speech would serve only that segment of the captioning market devoted to real-time captioning, leaving all other forms generally untouched. So for the foreseeable future, we must look for ways to reduce the labor costs.

My own research with captioning has revealed to me a number of reasons why captioning is so expensive, totally aside from the skills required.

1. Most captioning is done by skilled transcribers who command high hourly rates commensurate with their capabilities. They are largely trained court reporters using stenographic systems. While these skills are needed in real-time situations, there is plenty of room to use less-skilled typists when captioning can take place off-line.
2. In many cases captioning input could be taken from a script in electronic form, but

instead is retyped from the audio track of the program. While there may be differences between the script and the actual spoken dialog, getting the major portion of the dialog into a computer in the first place is time-consuming and a needless duplication of effort where machine-readable text is already available.

3. Quite often the captioning is done and re-done because of lack of agreement between the producer and the captioner on the expected outcome. While this is an integral problem with episodic TV production, upon which "sweetening" continues right up to air time, it is a needless vanity for other types of productions. In my interviews with working captioners, I found a wide variance in the level of knowledge of film/video production, and in talks with video producers, I have found an appalling lack of knowledge regarding the requirements of the captioners. A lot can and should be done to educate both of these groups so that costs can be better controlled.
4. The intricacies of the closed captioning process itself is responsible for much of the complexities, and thus the cost, of captioning. If a scene is re-edited, for example, most editing equipment does not show the effect of a re-cut on the captions; this only becomes apparent after reviewing the scene using a decoded TV monitor. This results in many re-arrangements of the captions which would be un--necessary if the hardware for captioning were better integrated into the editing suite.

*Supply of Closed Captioning and Video Description Services.* We also seek comment on the adequacy of the supply of closed captioning and video description services.

While it is undoubtedly true that the number of captioning providers has increased, the quality needs to be addressed. There should be some kind of standard which is enforceable to eliminate the truly terrible captioning that pervades the market. The quality is particularly apparent in news shows where it is common for captioning to suddenly disappear, or to drop out in the middle of a sentence, only to come back in a rush minutes later. The result is captions which are not only useless, but are actually an irritant rather than a help.

*Funding of Closed Captioning and Video Description.* Captioning and video description are funded by a number of sources, including the federal government, program producers, program providers such as the broadcast networks, PBS and the Corporation for Public Broadcasting ("CPB"), foundations, advertisers, private corporations, and individual contributors.

The current governmental attitudes towards reducing costs and services are likely to have a negative effect on the amount of funding available through the Department of Education and other public-sector entities. It is important that private-sector replacements for those funds be found. The major corporations who control the mass media are among the largest contributors to political campaigns and are behind a lot of the thrust to eliminate

government funding of things such as aid to people with disabilities. It is therefore quite appropriate to demand that they take up the slack in funding, since they are the principal beneficiaries from the granting of the station licenses. In addition, sponsors should perhaps be required to fund all or part of the captioning or video description costs for programs which carry their advertising messages. The fact that 40% of the funding for captioning has been paid for by DOE indicates that the private sector has not yet fully lived up to their responsibilities for providing equal access. It is exactly this situation which disturbs most of us with hearing loss the most; without government support, we are truly worried that we will see fewer and fewer captioned products.

We seek comment on the role free-market forces have played and can play in promoting the provision of closed captioning of video programming. For example, are advertisers actively seeking to market to individuals with hearing impairments, which could in turn encourage closed captioning of television programming?

I would suggest enlisting the aid of the major private sector funders of closed captioning, such as Southland Corporation (7-11 Stores), IBM, Ford Motor Company and others who have actively supported closed captioning. I do not know if they have any statistics to provide which would help to convince other advertisers of the economic benefits of captioning, but I assume they would.

Beyond this, the reliance on private sector companies to fill the gaps in funding of their own volition is, in my opinion, naive. The need for captioning exists well beyond the possible direct economic benefits to any one advertiser or supporter in the private sector. This is a basic fact of life that is behind the whole idea of government involvement in creating a level playing field for all citizens regardless of their race, gender, age or disability.

How does the audience size of a particular program influence the likelihood that the program will be closed captioned? Are there presently a sufficient number of decoder-equipped television receivers in the market to provide the hoped-for incentive for the television industry to provide closed captioning? We welcome comment, including empirical and economic analyses, on these and any other issues concerning the market forces at work.

It is quite apparent that expected market size, and thus potential revenue, plays a very significant role in the decision whether or not to caption any particular product.

*The application of mandatory requirements.* One issue we seek comment on is which entities should be subject to any mandatory requirements. Broadcast television stations and other delivery systems produce some of their own programming, such as news programs, but they often obtain programming from program producers or independent distributors of such programming.



**I believe that captioning should be required, but that some latitude should be left as to the form. Captions are most often created by the producer at the time the product is created. The responsibility to create captions must be put on the original producer, and at the same time, the responsibility to maintain the integrity of the captions must be given to all others in the delivery chain.**

*Exemptions.* Both the Senate and House legislative proposals would provide exemptions from closed captioning requirements. The House bill provides that "the Commission may exempt by regulation programs, classes of programs, or services for which the Commission has determined that the provision of closed captioning would be economically burdensome to the provider or owner of such programming."

**I believe that by a combination of efforts to educate producers in the need for captioning, education of captioners in methods of reducing costs, encouraging the industry to develop more low-cost solutions to the problem and financial incentives such as tax credits, it should not be necessary to exempt any producers from the requirement to make their products equally accessible. The goal is to make all products equally accessible. Exempting any group or class of products from the requirements to caption will only delay or thwart that goal.**

Should particular types of programs (*e.g.*, locally or regionally produced programs), or small programming providers or owners/producers, be categorically exempted from captioning or video description requirements?

**I think it is particularly important that captioning of locally or regionally produced programming be encouraged and stimulated. Restricting communications access isolates people from their society and nowhere is that more damaging than to isolate people from their immediate community. I think I could well exist without knowing what is happening on the other side of the world more easily than I could not knowing what is happening in my own community. I want to be able to fully participate in the affairs of my local community, to interact with my neighbors, to speak my piece about what is happening around me and to contribute what I can to the betterment of life for myself and my neighbors. I cannot do that if I am excluded by communications barriers.**

We also request comment on the current accuracy of closed captioning on television programming. There have been reports regarding inaccurate closed captioning, especially for live programming where there is no chance to review and correct for errors. We seek comment on the extent of this problem and any steps that could be taken to promote accurate and appropriately formatted captions.

**I touched upon this subject above, but I feel that it is most important to seek out the opinions and comments of the user community, on an ongoing basis. Perhaps some kind of**

user watchdog group could be formed, which would provide timely and constructive feedback to correct problems. It should be fully supported by the government, in the sense that the findings or reports of such a group should be considered carefully in handling license renewal applications, or the government should be responsive to user complaints or suggestions for corrections by bringing the authority of the government to bear on any offender.

*Transition.* We seek comment on appropriate timetables for implementing any closed captioning or video description requirements that may be imposed. Should any such requirements be instituted over a period of time?

**Captioning is already a maturing technology, not something which is just beginning to be used. Therefore, if there should be some kind of timetable, it should be accelerated based on the fact that there is already a substantial body of knowledge upon which new techniques can be built.**

We also ask parties to comment on whether the implementation of digital technology on broadcast television, cable, and other delivery systems should factor into any transition that is adopted.

**If anything, moving to digital should make the whole problem easier to solve, so I do not think there needs to be any significant adjustment in a timetable strictly to allow for the change from analog to digital technology. Eliminating the narrow interpretation of "closed" captioning should allow producers much more freedom to develop methods which maximize the benefits of new technology, and which could either supplement or enhance the current "line 21" captioning techniques.**

Are expenditures for these services tax deductible, and, if not, would such favorable tax treatment lead to significant increases in their availability?

**As most of the objections to captioning appear to be based on economic reasons, anything that the government can do to ease that burden should help.**

Thank you for the opportunity to make my views a part of the public record on this issue.

Sincerely,

Dick Burkhalter  
150 Ohana Street  
Kapaa, HI 96746